

ends secured to the body, substantially as described, 3rd. In a vehicle, the combination of the body, the reach and axles, with the within described springs having their outer arms  $\alpha$ ,  $\alpha_1$  arranged lengthwise of the body in the same direction, the arms  $\alpha_1$  being pivotally connected directly to the axle  $b$ , and the arms  $\alpha$  being connected pivotally to the spring  $\alpha_1$ , or to a bolster or support for the purposes described.

### No. 26,146. Dynamo-Electric Machine.

(Machine dynamo-électrique.)

Royal E. Ball, New York, N.Y., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. In a dynamo-electric machine, a concentrically movable field-magnet constructed and adapted to revolve under the abnormal attraction of the armature, in combination with current-collectors whose positions relatively to said field-magnets are altered by such revolution. 2nd. In a dynamo-electric machine, the combination, with a revolving field-magnet, of concentrically-movable current-collectors coupled to said field-magnets, substantially as described, so as to be shifted thereby and in the direction of movement of the pole-pieces or poles. 3rd. In a dynamo-electric machine the combination, with a concentrically-movable field-magnet, and concentrically-movable current collectors, of intermediate differential gearing or coupling mechanism, substantially as and for the purpose described.

### No. 26,147. Dynamo Electric Machine.

(Machine dynamo électrique.)

Royal E. Ball, New York, N.Y., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. In a dynamo-electric machine, the combination, with the armature and shaft, of shoes having grooved faces, and screws seated in said shoes, and screwing into a sleeve upon said shaft, fibrous packing being interposed between said grooved shoes and the interior of the armature, substantially as described. 2nd. In a dynamo-electric machine, the combination, with a ring armature, grooved shoes bearing against the same upon the inside, and a fibrous shellac-soaked packing interposed between said armature and shoes, of blocks attached to said shoes, and screw-threaded arms screwing into a sleeve upon said shaft, and seated in said blocks, substantially as described. 3rd. In a dynamo-electric machine, the combination, with the armature and its shaft, and the commutator of a sleeve fitting said shaft, and projecting out from within the armature through the hub of the commutator, substantially as described. 4th. In a dynamo-electric machine, the combination, with the commutator and the armature and its shaft, of a sleeve fitted over said shaft and secured thereupon, said sleeve serving to receive the ends of radial arms upon which said armature is supported, and having a reduced end which passes through the hub of the commutator, substantially as described. 5th. In a dynamo-electric machine, the combination, with the armature shaft, and a sleeve secured thereupon to which the armature is attached by means of radial arms, of a commutator whose hub fits over said sleeve, and is secured thereupon by means of a screw-key which enters a hole formed at the junction of said hub and sleeve, substantially as described. 6th. In a dynamo-electric machine, the combination, with a sleeve fitted upon the armature shaft and carrying the armature, of a hub fitted upon said sleeve and provided with a flange at or near one end, and a nut at the other end, cylinders of insulating material having flanges and commutator-section which are set between said flanges and held in position by the nut and flange upon the hub, substantially as described. 7th. In a dynamo-electric machine, the combination, with the armature-coils, of the commutator-sections, whose projecting arms are bent in at intervals or alternately to prevent contact of the same, and permit the employment of a larger number of sections, substantially as described. 8th. The combination, with the commutator sections E, E, and their arms H, H', of the tape  $\iota$  is woven upon and between said arms, substantially as described.

### No. 26,148. Regulator for Dynamo-Electric Machine.

(Régulateur de machine dynamo-électrique.)

Royal E. Ball, New York, N.Y., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. The combination, with a dynamo-electric machine having its field-coils arranged in multiple arc, of a variable resistance included in each of its branches, and means for operating said variable resistance, substantially as described. 2nd. The combination, with a dynamo-electric machine having its field-coils arranged in multiple arc, and a variable resistance included in each of the branches of said multiple circuit, of a supplemental coil arranged as a shunt across the field-circuit, and surrounding a portion of the field-magnets, substantially as and for the purpose described.

### No. 26,149. Chain Conveyor.

(Chaîne Monte-charge.)

Michael Garland, Bay City, Mich., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. A conveyor-chain composed of links, each having a cross-bar and two side-bars, and having the pintle-like devices formed or provided with lugs  $B_1$ , and the convergent ends of the side-bars formed with cut-outs or slots in their eyes, for the purpose of effecting a rigid union or connection between said portions of said side-bars, and the cross-bar of the three-part link, all substantially as hereinbefore described. 2nd. A conveyor-chain composed of links, each of which comprises one cross-bar and two side-bars, the said two side-bars being arranged divergently relatively to the cross-bar, and formed with the end portions in planes parallel to each other and to the central line of the chain, and both the cross-bar and the two side-bars being rectangular or plate-like in cross section, for the purpose of constituting the carrier-receptacles, all substantially as hereinbefore set forth. 3rd. A conveyor-chain composed of obliquely-arranged side-bars, and parallel transverse or cross-bars, the said side-bars being formed or provided with one or more outwardly-projecting scrapers or clearing devices  $\alpha$ , substantially as and for

the purposes set forth. 4th. In combination with the obliquely-arranged side-bars A, A, a cross-bar or flight B formed or provided with a lug  $B_1$  near the end of each of its pintle-like portions, to engage with a correspondingly-shaped slot or cut-out in the eye of each of the side-bars, of another link for the purpose of effecting the flexible connection between the parts of two links, and permitting the uncoupling and recoupling of such parts, all substantially as hereinbefore set forth. 5th. In combination with the obliquely-arranged side-bars A, A, of two adjacent links, a cross-bar or flight B having at different localities on each of its pintle-like portions, the lugs  $B_1$  and  $B_2$  for the purposes respectively of retaining in place, the flexibly-connected ends of the side-bars of one link, and holding rigidly in place the ends of the side-bars of another link, all substantially as hereinbefore described. 6th. In combination with the side-bars, of a chain composed of a series of links, substantially such as described, the two series of projections or scrapers  $\alpha_2$  and  $\alpha_3$ , arranged and operated in substantially in the manner and for the purpose hereinbefore set forth.

### No. 26,150. Stable Floor. (Pavé d'écurie.)

Marshall St. German, Fairfield, Vt., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. In a stable-floor, the slide B so arranged as to be moved back and forth beneath the floor, by means of a pivoted lever loosely connected with it, and when closed to allow an opening for the escape of liquids, substantially as and for the purpose set forth. 2nd. In a stall, the combination, with the floor joists having recesses, and the floor having an opening therein, as shown, of a slide B inside of the recesses below the opening, the rods  $b$  connected to the slide, the bracket D and lever C pivoted to said bracket, and the rods  $b$  by means of which the slide is moved back and forth under the opening, substantially as described and for the purpose set forth.

### No. 26,151. Stave for Pails, Barrels, etc., and method of fastening the same.

(Douves de Seau, baril, etc., et manière de les assembler.)

Israel L. G. Rice, Brookline, Mass., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. A pail, barrel, tub, or other article made of staves having circumferential grooves, shoulders, projections, or other similar supports for the hoops, combined with corrugated elastic hoops, substantially as set forth. 2nd. The combination of a pail, barrel, tub, or other article made of staves, having vertical grooves and horizontal grooves with an elastic hoop, substantially as set forth. 3rd. The elastic hoop C, with an inner flange  $C_2$  to fit the groove in the staves, substantially as and for the purpose set forth.

### No. 26,152. Car Coupling. (Attelage de Chars.)

John P. Ketteringham, James Farrell, Patrick W. Mulvihill and Samuel J. Perreault, Natchez, Miss., U. S., 7th March, 1887; 5 years.

*Claim.*—1st. A draw-head, constructed with a link-opening  $b_1$  having upper and lower recesses  $b_2$ , and an interior chamber C having side recesses  $c$ , and provided with pivoted coupling bars D having integral coupling hooks  $d$ , the springs E, cam F and an angular lever G adapted to operate said pivoted coupling bars, substantially as shown and described and for the purpose herein set forth. 2nd. The combination, with a draw-head, constructed with a link-opening  $b_1$  having recesses  $b_2$ , and interior chamber C provided with side recesses  $c$  and coupling-bars D pivoted in said chamber, the springs E, cam F and angular lever G, together with means for operating said coupling-bars, of the link M provided with arrow-heads  $m$  having pin-holes  $m_1$  therein, and central projections  $m_2$ , substantially as shown and described and for the purposes herein set forth. 3rd. The link M, constructed with a square body having central projections  $m_1$  upon two sides thereof in the same plane, together with arrow-headed ends  $m$  having pin-holes  $m_2$  therein, substantially as shown and described and for the purposes herein set forth.

### No. 26,153. Cultivator. (Scarificateur.)

Lemuel Mellett, Milford, and August P. Lighthill, Boston, Mass., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. The combination, with the frame of a cultivator of the type shown, of the lever  $e$  pivoted to the central beam, the levers or links  $f, f$  pivoted to the side beams and jointed to the ends of the lever  $e$ , the operating rod attached to the lever  $e$  and provided with a handle and locking devices, whereby said rod is locked in any position to which it may be turned, as set forth. 2nd. A cultivator having a shoe  $m$ , formed to slide on the surface of the ground in front of the cultivator teeth, as set forth.

### No. 26,154. Stocking Protector. (Couvre-bas.)

Alexander Shaw, Grantham, Eng., 7th March, 1887; 5 years.

*Claim.*—1st. As a new and improved article of manufacture, a stocking protector A made of soft material, without a separate sole, and adapted to be worn over the stocking and inside the boot or shoe, substantially as described. 2nd. The stocking protector A, having a seamless bottom, substantially as described. 3rd. The blank B for the stocking protector, formed with side pieces  $\sigma, \rho$  and  $h, h$ , the body of the blank being cut to form the curved edges  $m, o$ , the side pieces  $\rho, h$  having respectively the curved edges  $d, c$ , substantially as described. 4th. The protector A, having a seamless bottom and formed with the front seam  $b$ , transverse toe seam  $c$  and transverse heel seam  $e$ , substantially as described.

### No. 26,155. Wrench. (Clé à Ecrou.)

Robert W. Philips, Guelph, Ont., 7th March, 1887; 5 years.

*Claim.*—1st. A metal bar A, attached to or forming part of a handle, in combination with the jaw C, connected to the bar A by the pivoted